

Transportation Research Board Technical Committees

The Transportation Research Board (TRB) is a division of the National Academies, which includes the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council. The Transportation Research Board's mission is to promote innovation and progress in transportation through research.

TRB manages 200 Technical Committees on topics covering all modes and aspects of the transportation industry. The committees

- Provide for a mutual exchange of information among committee and task force members on socioeconomic and technological developments
- Identify research needs
- Stimulate needed research
- Advise on research priorities and procedures
- Evaluate and interpret research findings
- Review papers for presentation at TRB meetings and for publication
- Encourage the adoption of appropriate research findings into practice
- Arrange special programs, conferences, and workshops

Twenty-seven WSDOT employees are currently members of 35 TRB Technical committees. Five of these employees chair technical committees.

Transportation Research Resources

Transportation Research Information Services

The Transportation Research Information Services (TRIS) Database is the world's largest and most comprehensive bibliographic resource on transportation information. TRIS is produced and maintained by the Transportation Research Board at the National Academy of Sciences.

TRIS contains over 535,000 records of published and ongoing research on all modes and disciplines in the field of transportation. Last year over 30,000 new records were added to TRIS. TRIS also provides a gateway to the International Transport Research Documentation (ITRD) Database. This resource provides an important first step in understanding the current baseline of events and recent innovations (<http://trisonline.bts.gov/sundev/search.cfm>.)

Research in Progress

The Research in Progress (RiP) database contains about 6,600 records of current or recently completed transportation research projects. Each month about 100 new RiP projects are added to the database and another 150 RiP records are updated. Most of the RiP records are projects funded by federal and state Departments of Transportation. University transportation research is also included. In 1998, the Transportation Association of Canada began supplying records from its Canadian Surface Transportation Research Database for RiP.

The RiP database is an excellent resource for emerging technologies (<http://rip.trb.org/>).



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Transportation Research Programs

A variety of transportation research programs are available to help transportation agencies address their research needs. This document summarizes the programs that WSDOT uses to fund and influence transportation research.

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<http://www.wsdot.wa.gov/Research/>

Funding Opportunities

The State Planning and Research (SPR) Research Program

The Transportation Equity Act of the 21st Century (TEA- 21) required that at least 25% of the State Planning and Research (SPR) apportionment (or its equivalent from other authorized sources) be restricted to *research* activities. A 20% state match is required. The WSDOT Research Office manages WSDOT's SPR research program. This biennium, the SPR program (including state match) is \$5,790,372.

The SPR research funding can be used for research, development, and technology transfer activities. The funding is managed in six program areas: Bridges & Structures; Environment; Highway Design & Safety; Mobility & Intermodal Planning; Construction & Materials; and, Highway Operations. Table 1 shows the percentage of research funding per biennium by research program area.

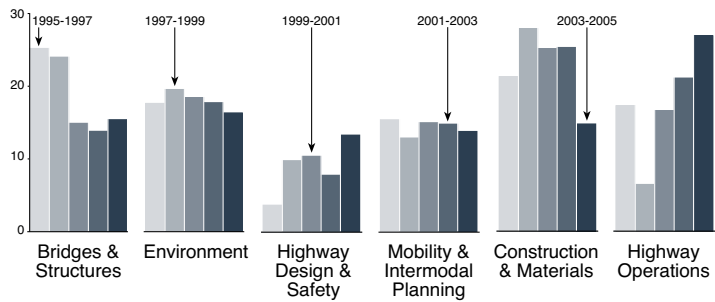


Table 1. Percentage of research funding per biennium by research program area.

The SPR program has provided substance and stability for the WSDOT Research Program. Projects are selected in the fall of even years on a biennial basis.

WSDOT Program and Project Research Funding

Some Programs, Divisions, and Project Offices conduct research and experimental activities in addition to research funded by the SPR program. For example, the Bridge Office has conducted research on specific bridge design elements to help identify the best method for retrofitting bridges. Traffic management activities are funded within the program to help meet the need for answers in a time of significant evolution. In addition, Project Offices may test new designs or conduct research as part of a mitigation plan.

Funds eligible to be used for research include: National Highway System (NHS), Surface Transportation Program (STP), Metropolitan Planning (PL), and Minimum Guarantee (MG). Some portions of these funds are used for research at WSDOT but this information is not currently collected.

Pooled Fund Program

The Federal Highway Administration (FHWA) sponsors the Transportation Pooled Fund Program as a means for interested States, FHWA, and other organizations to partner when significant or widespread interest is shown in solving transportation-related problems. Partners may pool funds, including SPR funding, with no state match requirement. Activities may include research, planning, or technology transfer activities.

To qualify as a pooled fund study, more than one state transportation agency, federal agency, other agency such as a municipality or metropolitan planning organization, college/ university or a private company must find the subject important enough to commit funds or other resources. Federal and state transportation agencies may initiate pooled fund studies.

WSDOT is currently involved in 31 Transportation Pooled Fund studies. For each dollar contributed, approximately nine dollars are gained from other contributors. Projects may be developed at anytime throughout the year.

Federal Discretionary Funds

Research activities may also be funded through federal earmarks. Three categories for research activities are currently available through TEA-21. The categories include: Surface Transportation Research Strategic Planning; Surface Transportation Research Program; and, formula grants program for other than urbanized areas within the Rural Transportation Assistance Program that is part of the Transit Planning & Research Program).

Projects are considered by WSDOT Executive Management for federal discretionary funds in January/February of each year.

Transportation partners may also request federal earmarks for transportation research. The Washington State University has successfully competed for federal earmarks. Projects receiving funding have included: Bridge Health; Strategic Freight Transportation Analysis; and, Infrastructure Renewal.



Influencing Research

National Cooperative Highway Research Program Transit Cooperative Research Program

The National Cooperative Highway Research Program (NCHRP) is an applied, contract research program that develops near-term, practical solutions to problems facing highway agencies. States provide a voluntary contribution of SPR funds to the NCHRP. Similarly the Transit Cooperative Research Program (TCRP) performs specific practical research for transit organizations, funded by the Federal Transit Authority funds TCRP. NCHRP problem statements are submitted in September and TCRP problem statements in June of each year.



Other cooperative research programs are being discussed with the reauthorization of TEA-21. Possible cooperative programs include: Surface Transportation Environment and Planning Cooperative Research Program; National Cooperative Freight Transportation Research Program; National Multimodal Trends Policy Research Program; and, Rail Cooperative Research Program. In 2003, the Vision 100 - Century of Aviation Reauthorization Act (Vision 100) established the Airport Cooperative Research Program.

WSDOT may recommend problem statements for study and nominate employees for oversight panels. WSDOT employees are currently participating in 65 NCHRP and TCRP panels.

Synthesis Programs

Both NCHRP and TCRP manage Synthesis Studies. The programs prepare syntheses of current practice in the highway and transit fields. The reports are prepared under the guidance of a technical panel, with the assistance of an expert in the topic area who serves as the project consultant.

A similar program, the Commercial Truck and Bus Safety Synthesis Program (CTBSSP), was recently established.

WSDOT may submit proposals for synthesis studies and nominate employees for oversight panels. NCHRP synthesis proposals are due in January and TCRP proposals are due in March of each year.

Innovations Deserving Exploratory Analysis

Innovations Deserving Exploratory Analysis (IDEA) is a TRB program to fund investigations of promising but unproven innovations in four transportation areas. IDEA proposals are reviewed in March and September. The program operates four categories:

- High-Speed Rail – aimed at helping attain the goal of cost-effective upgrading of current rail infrastructure for high-speed passenger travel and leading to a viable high-speed rail transportation system in the United States. Projects are selected based on their potential to support upgrading the existing U.S. rail system to accommodate operations of 125 mph and beyond. The program is funded by the Federal Railroad Administration.
- NCHRP Highway - seeks to introduce new technologies, methods, or processes for application to highways and intermodal surface transportation through the development and testing of nontraditional and innovative concepts, including application of those from other technology sectors that have not yet been tested in the highway sector. The program considers deserving innovations in any technology area for highway and intermodal surface transportation systems.
- Transit – focuses on transit security and bus rapid transit. The Transit IDEA Program is part of the Transit Cooperative Research Program, a cooperative effort of the Federal Transit Administration (FTA), the Transportation Research Board (TRB), and the Transit Development Corporation (a nonprofit educational and research organization of the American Public Transportation Association). The program is funded by the Federal Transit Administration.
- Safety - provides funding for projects that promote innovative approaches to improving railroad, intercity bus, and truck safety. The program encompasses vehicle improvements, operator performance, and alertness improvements; operational practices; and hazard reduction, among other interest areas. The program is jointly sponsored by the Federal Motor Carrier Safety Administration and the Federal Railroad Administration.



WSDOT may submit proposals for innovations to study.